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ABSTRACT

The present study evaluates the immediate effects of an experimentally manipulated social comparison on the subsequent behavior of lower socioeconomic status black children four to five and seven to eight years of age. The effects of four conditions of social comparison are measured with respect to the children's self-reinforcement, self-confidence, and task persistence. Also evaluated are the effects of contingent versus noncontingent reward in the social comparison situation. The results indicate that positive social comparison yielded more self-reinforcement than negative social comparison. Younger children displayed more self-confidence than older children. This finding closely resembles the effects of repeated failure experiences on children and lends support to the contention that the social comparison process is related to the dimension of success and failure. It appears that the effects of an experimented manipulation of social comparison are somewhat different for children from black, lower socioeconomic status than for white children from similar backgrounds. (Author/DE)

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The Effects of Social Comparison, Contingency of Reward, and Age of Subject on Self-reinforcement, Self-Confidence, and Task Persistence

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The Effects of Social Comparison, Contingency of Reward, and Age of Subject on Self-reinforcement, Self-confidence, and Task Persistence

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Social comparison theory developed through the work of social psychologist Leon Festinger (1950,1954). The theory was initially concerned with the effects of social communication upon opinion change in social groups, but it was soon extended to include the appraisal of abilities as well as the evaluation of opinions. According to social comparison theory, social-influence processes and certain kinds of competitive behavior derive from a need for self-evaluation; and the self-evaluation requires evaluations based on comparisons of oneself with other persons. The process of social comparison occurs when a person tries to ascertain where he stands in relation to others, or in relation to his peers.

A major assumption of social comparison theory is that people have a need to determine the adequacy of their opinions and to accurately appraise their abilities. It is also widely recognized that an individual's opinions and beliefs, as well as evaluations of one's abilities are important determinants of behavior. The confidence to engage in new behaviors or to accept different challenges emanates from a previous history of success in similar situations. Successful experiences inspire positive expectations for future success.

According to Festinger (1950, 1954), people will behave in ways designed to satisfy the need to evaluate their opinions and abilities. In general, a person has two means by which to make evaluations. One of these is to use objective reality as a basis for evaluation, while the other is to use social reality. When objective reality is not available, people evaluate their opinions and abilities by comparison with the opinions and

abilities of others (social reality). For example, a person might measure the time required to solve a particular problem, but relatively little would be revealed about the person's problem-solving ability unless something was known about the time required for others to solve the same problem (Festinger, 1954).

A significant extension of social comparison theory was provided by J. Stacy Adams (1965), who investigated the question of inequity in social exchange (or felt injustice) as a possible explanatory concept for the dissatisfaction that is so commonplace in large organizational settings and in industry. He proposed that individuals compare themselves to others with respect to what each individual contributes to a situation (input) and what each individual derives from that situation (output). In his discussion of inequity in social exchange, Adams concluded that inequity results when input/output ratios of the two comparison persons are not equal, resulting in tension that in turn promotes behavior change. These behavior changes result either in the ratios becoming equal or in a cessation of comparison by leaving the field (Adams, 1965; Adams & Jacobsen, 1964).

The most recent elaboration of Festinger's theory of social comparison processes has been made by John Masters (1968, 1971b). Drawing heavily from Adams' exchange or social inequity theory, Masters studied the effects of social comparisons of young children on their subsequent self-reinforcement behavior. His effort represents the first attempt to apply social comparison processes to young children.

Masters broadened the definition of social comparison to include all comparisons made with regard to the performance, preferences, or outcomes (rewards or punishments) of another person. He defines social comparison as having "occurred when the direct observation of others or information about

their performance, preferences or experiences leads to a change in behavior," (Masters, 1971b). Social comparison thus may occur with respect to any aspect of a person's behavior, or consequences thereof, that are relevant to other people (Masters, 1971b).

His initial investigation used white, middle-class, preschool children who ranged in age from 3 years 10 months to 5 years 2 months. Subjects compared the amount of non-contingent reward (chips "worth valuable prizes") that they received to the amount received by their partner. The subjects were given more (positive social comparison), fewer (negative social comparison), or the same (equal social comparison) number of chips as their comparison partner. They were subsequently given the opportunity to dispense chips (0 to 4) to themselves after completing each of nine simple mazes. No contingency was involved in this self-dispensing of rewards described by Masters (1968) as self-reinforcement.

Predictions from equity theory were that 1) children who received fewer rewards than their partner (low or negative condition) would evidence the greatest rate of self-reinforcement, 2) children who received more rewards than their partner (high or positive condition) would show the least self-reinforcement, and 3) children who received the same number of rewards as their partner (equal condition) would be intermediate in their self-reinforcement.

Each of the three principal predictions was confirmed for boys. Negative social comparison produced the greatest self-reinforcement displayed by male subjects, while positive social comparison produced the least self-reinforcement. The girls in this study also showed the same pattern of generously rewarding themselves following negative social comparison; but unlike the boys, they also tended to exhibit more self-reinforcement after positive social

comparison than they did after equal social comparison.

A replication of this study (Masters, 1969) resulted in the same pattern of responses as a function of social comparison. It was suggested that the high and low conditions of the experiment represented respectively success or failure to attain as many or more tokens than a peer. Thus Masters (1969) presented the possibility of interpreting and predicting effects of discrepancies in social comparison with respect to a more familiar success-failure paradigm.

Additional variables having potentially significant relationships to the effects of social comparison have been investigated by Masters and his colleagues (Masters, 1971a; 1972a,b; 1973; Masters & Peskay, 1972; Peskay & Masters, 1971). For example, it was found that children engaged in significantly greater self-reinforcement in the presence of a female experimenter than a male experimenter; and social comparison effects occurred only in the presence of male experimenters (Masters, 1971a). In a study designed to assess the effect of social comparison on subsequent tendencies to accept or reject the influence of a model, subjects demonstrated a pronounced tendency to reject the model's behavior when they had received more rewards than the model, the partner in social comparison (Masters, 1972a).

Another study by Masters (1973) directly related to the present study examined differences in self-reinforcement as a function of age of subject and the contingency of the social comparison treatment. Social comparison effects were observed only for younger children (ages 4-5), not for older children (ages 7-8). There were no differences related to the contingent or non-contingent dispensation of rewards in the social comparison manipulation.

The most recent study in this area explored the effects of social comparison on 4 and 5 year-old children's task persistence, self-confidence, and attention to task (Santrock & Ross, 1974). A difficult wooden puzzle was used to measure persistence to task and self-confidence following four

conditions of social comparison. It was predicted that negative social comparison would effect the longest task persistence but the least efficient attention to task. It was also hypothesized that children would exhibit less self-confidence (as measured by the child's judgement of his ability to solve the difficult puzzle) following negative social comparison. As predicted, children showed less efficient attention to task and less self-confidence following negative social comparison. Although no significant differences occurred on task persistence, children who experienced negative social comparison actually persisted longer than the positive social comparison group.

While the literature provides evidence of social comparison effects on preschool children's self-rewarding tendencies, altruism, and imitative behavior, no discernable social comparison effect has been demonstrated for older children. Similarly, there is still uncertainty regarding the effects of social comparison when mediated by contingent or non-contingent differential reward input. Another concern relates to the potentially different social comparison effects manifested by children of different social classes. This study is addressed to questions derived from the above mentioned concerns.

The purpose of the present study was to evaluate the immediate effects of an experimentally manipulated social comparison on the subsequent behavior of lower-SES black children 4-5 and 7-8 years of age. The effects of four conditions of social comparison were measured with respect to the children's self-reinforcement, self-confidence, and task persistence. Also evaluated were the effects of contingent versus non-contingent reward in the social comparison situation. There were four conditions of social comparison: positive, negative, equal, and nonsocial (control). A positive social comparison results when the differential reward favors the target subject, and a negative

social comparison results when the differential reward favors the subject's partner. In the equal condition, reward is the same for both subject and partner, while the control situation involves no comparison person.

It was predicted that younger subjects would exhibit higher rates of self-reinforcement than older subjects and girls were expected to exhibit higher rates of self-reinforcement than boys. Younger subjects receiving negative social comparison were also expected to show the highest level of self-reinforcement. For older subjects, however, an interaction between social comparison condition and contingency of reward dispensation was predicted. The negative non-contingent and positive contingent conditions were expected to result in a higher frequency of self-reinforcement than positive non-contingent and negative contingent.

With regard to subjects' ratings of self-confidence, it was expected that subjects in the negative social comparison condition would show the least self-confidence; boys would demonstrate more self-confidence than girls; and older subjects would demonstrate more self-confidence than younger subjects. For task persistence, the prediction was that boys would persist longer than younger subjects. Moreover, it was predicted that subjects in both the negative non-contingent condition and the positive contingent condition would show the longest task persistence.

METHOD

Subjects were selected from two elementary schools in the Atlanta Public School System. Both schools served lower-SES black communities and therefore qualified for Title IV-A programs. The all black sample consisted of 96 children equally divided between boys and girls and between 4 and 5 year-olds (kindergarten and day care) and 7 and 8 year-olds (second-grade).

Three male graduate students and one male undergraduate served as experimenters. The white experimenters ranged in age from 21 to 27 years and each was attired in casual dress.

To effect social comparison, two same-age peers were taken to an experimental room where they participated in a simple picture identification game. All subject-partner pairs were of the same sex.

The four social comparison conditions were produced by varying systematically the relative amounts of chips children received during a picture naming game. Chips were dispensed over a period of nine trials for each condition. In all conditions a total of 60 chips were dispensed, and in all conditions the target subject always received 12 chips. However, the number of chips dispensed to the partner and/or back into the basket of chips varied according to the social comparison condition. Thus, in the positive condition the subject received 12 chips while his partner received 3 chips. The remaining 45 chips were dispensed back into the basket from which the chips were initially drawn. In the negative condition, the subject received 12 chips, and the partner received 48 chips. In the equal condition, 12 chips were given to both subject and partner, with 36 chips being dispensed back into the basket. The control group subjects played the picture game alone. They received 12 chips and saw 48 chips dispensed back into the basket.

The materials for the social comparison treatment consisted of pictures from the lowest level (3 years 3 months to 4 years 2 months) of the Peabody Picture Vocabulary Test. Two sets of 10 picture plates were bound in notebooks, and each picture was colored red, blue, yellow or brown. Both notebooks contained the same pictures, but the color of the pictures in one notebook was discrepant from the color of the pictures in the other notebook. This odd notebook made it possible to elicit responses (from either the subject or partner, depending on the condition) that would always be wrong, thereby

permitting the distinction between the contingent and the non-contingent treatments. Only the positive contingent and the negative contingent conditions used the notebook containing odd pictures. The other four conditions (positive non-contingent, negative non-contingent, equal and control) used only the one set of matching colored pictures.

Contingent social comparison occurred when there was a contingency relating subject and partner's picture-matching responses to the amount of reward received. Subjects in the positive contingent condition had matching pictures and received more chips than their partners who had non-matching pictures. Conversely, subjects in the negative contingent condition had non-matching pictures and received fewer chips than their partners, who had matching pictures. To effect positive and negative contingent social comparison, the experimenter always communicated to the partner, not to the subject, whether or not his response was correct or incorrect. In the four remaining conditions, the experimenter simply non-contingently dispensed either more, less, or an equal number of chips to the subject and partner.

At the conclusion of the nine trials, the subject and partner were asked who received more chips. Then the first experimenter returned the partner to his room, and the second experimenter entered the experimental room to conduct measures for the 3 dependent variables.

The dependent variables were the subjects' self-confidence, self-reinforcing behavior, and task persistence. A measure of self-confidence was taken first. To measure self-confidence, five piles of random puzzle pieces from a 100 piece set were arranged on a table. The first pile contained only six puzzle pieces, while each successive pile contained an increment of 6 pieces. After the experimenter described the increasing difficulty of the 5 puzzles, the subject was asked to point to one of the five puzzles that he/she wanted to work.

The measures of self-reinforcement and task persistence immediately followed the measure of self-confidence. Five simple mazes from the Wechsler Preschool and Primary Scale of Intelligence were used as the cover task for self-reinforcement. A plate of 10 chips was placed behind each maze, and subjects were instructed in the following manner, "After you do each maze, you should take as many chips as you think are right. Put them in this green bowl."

An extremely difficult, 11-piece wooden sphere (puzzle) was used to measure task persistence. None of the subjects were able to solve this puzzle. The puzzle was described to each subject and the experimenter asked that each stop and tell the experimenter when he/she was tired of working on the puzzle.

RESULTS

The data relevant to the three dependent variables studied here (self-reinforcement, self-confidence, and task persistence) were subjected to two independent three-way analyses of variance. In the first of these, the primary factors were social comparison (positive and negative), contingency of reward dispensation (contingent and non-contingent), and age of subject (4-5 years-old and 7-8 years-old).

The results of these analyses revealed no significant main effects or interactions (using a .05 level as the criterion for significance) for self-reinforcement, self-confidence or task persistence. There were, however, some discernable trends in the data. For the measure of self-reinforcement summed over the five simple mazes, positive social comparison yielded more self-reinforcement ($\bar{X}$ = 34.21 chips) than did negative social comparison ($\bar{X}$ = 28.29 chips). Younger children ($\bar{X}$ = 33.04) self-dispensed slightly more chips than did the older children ($\bar{X}$ = 29.46). Also, younger children ($\bar{X}$ = 3.08) displayed more self-confidence as measured by the

dependent measure than did older children ($\bar{X}$ = 2.25). This marginal effect of age with respect to self-confidence (F = 3.45, df = 1/40, p<.10) was in the direction opposite to that predicted.

Insert Table 1 about here

A second three-way analysis of variance was then computed with the following alterations. Two additional levels of social comparison were added to the existing positive and negative levels, namely an equal and a control condition. Also, the primary factor sex was substituted for the primary factor contingency of reward dispensation. Thus the remaining analysis of variance was a 4 x 2 x 2 design with four levels of social comparison, two levels of age and two of sex.

Insert Table 2 about here

Although there were no significant main effects with respect to self-reinforcement, a comparison of the means of the various levels of social comparison is instructive. The means were: positive social comparison, $\bar{X}$ = 34.21 chips; negative social comparison, $\bar{X}$ = 28.29 chips; equal social comparison, $\bar{X}$ = 24.46 chips; control, $\bar{X}$ = 24.92 chips. What is important is that positive social comparison was related to greater self-reinforcement. A significant interaction between age and sex was also found (F = 6.04, df = 1/80, p<.05). Figure 1 indicates that young males rewarded themselves more than young females, a result contrary to predictions. There was no significant difference between the means for older males ($\bar{X}$ = 29.37) and older females ($\bar{X}$ = 25.71), both of which fell between the means produced by younger males ($\bar{X}$ = 34.29) and younger females ($\bar{X}$ = 22.49).

Insert Fig. 1 about here

There were two significant main effects with respect to self-confidence namely age of subject ($F = 4.50$, $df = 1/80$, $p<.05$) and sex of subject ($F = 4.50$, $df = 1/80$, $p<.05$). Young children demonstrated more self-confidence than older children and boys demonstrated more self-confidence than girls. Again, there were no significant main effects or interactions with respect to task persistence.

Insert Table 3 about here

Discussion

The present study has explored several issues relevant to the understanding of social comparison. Chief among these were the independent variables (1) age of subject (4 - 5 year-olds and 7- 8 year-olds), and (2) the experimenter's contingent or non-contingent dispensation of reward. Also new was the sample, which consisted of urban, lower-socioeconomic black children rather than the middle-socioeconomic status white children used in prior studies. The procedural issue regarding the conditions (contingent or non-contingent) under which differential reward is dispensed is important, since social comparison may occur under contingent or non-contingent conditions of comparitive reward dispensation.

The aforementioned facets of the present experiment have primary significance for the self-reinforcement data. Before offering an interpretation of this data, however, the evidence supporting the influence of social comparison on self-confidence will be examined. Subjects in the negative social comparison condition exhibited a reduced level of self-confidence as compared with subjects

in a positive social comparison treatment. This finding closely resembles the effects of repeated failure experiences on children and lends support to the contention that the social comparison process (positive and negative) is related to the dimension of success and failure.

Also observed with respect to self-confidence was the age-related finding that younger subjects showed higher self-confidence than older subjects. Assuming that older children exhibit greater cognitive sophistication, it can be expected that they will be more realistic about their capabilities and will approach the choice of puzzle to work with a more conservative stance. Thus the older child is in a better position to consider the adequacy of the match between his ability and the probability of success on the tasks available.

In discussing the effect of social comparison on self-reinforcement, three broad issues will be considered. They are: (1) procedural issues, (2) population used in this study, and (3) age or developmental issues.

A salient feature of the data regarding the effects of social comparison concerns the direction of self-reinforcement following positive and negative social comparison. Regardless of age, sex, or equitability of reward dispensation, self-reinforcement was always greater following positive social comparison. This finding for girls, as well as for boys, is at odds with the findings of previous studies. Based on predictions from equity theory it is expected that subjects will compensate for their smaller comparative reward (negative social comparison) by indulging in a high rate of self-reinforcement. In previous studies, negative social comparison has been associated with significantly greater self-reinforcement than has positive social comparison (Masters, 1968, 1969, 1971a, 1973). The data from the present study, however, show a slight but nonsignificant reversal in the tendency for children to show self-reinforcement following negative social comparison. Instead positive social comparison was associated with the greatest amoung of self-

reinforcement.

The explanation for this contradictory finding may come from several sources. One of these pertains to those features distinguishing the procedures used in the present study from those used in previous studies. Although Masters' basic paradigm (1968) was followed carefully in the experimental manipulation of social comparison, there was a difference in the type of task used. Instead of using very simple questions that all of the subjects could answer, or using nine simple mazes, the present study used a very simple picture-matching task together with the typical rewarding of chips to the partner and/or to the subject. Since all subjects responded accurately when asked whether or not they had received more than, less than, or the same number of chips as their partner, it can be asserted that a social comparison did in fact occur.

Another very critical question concerns the instructions and procedure by which self-reinforcement was measured. Herein lies a potentially significant departure from previous research. The crux of the difference lies in the presence or absence of a stated contingency linking the simple task to the self-dispensing of chips. In the present study, an effort was made to build into the instructions a contingency for the self-dispensing of chips. As previously mentioned, this was done by telling the subject to take as many as he thought were right, thereby designating a contingency linking task performance to amount of self-reward. These instructions were equivalent to telling the subject to take as many as he deserved. In previous research, however, the instructions have emphasized that the subject should take as many as he likes, thereby expressly indicating the non-contingency involved in the task. The nominal task that provides the occasion for self-reinforcement was intended to merely rationalize the self-dispensing of chips. Unfortunately, it is not known how the subjects

interpreted the instructions of the present study to take as many as they thought were right.

It may be that there is virtually no difference in the way children of the ages used in this study respond to instructions to: "take as many as you think are right," or "take as many as you like." Children receiving instructions to take as many as they want may nevertheless translate this into some sort of decision strategy that legitimizes the number of chips taken in terms of some amount that is "right." On the other hand, what the child perceives as "right" may be somewhat altered by the nature of his prior social comparison. Thus the quality of one's standard for judging appropriate amounts of self-reinforcement may be raised or lowered by social comparison.

It would be valuable to clarify the contingency aspect of the self-reinforcement measure. If a distinction is to be drawn between the effects of social comparison on subsequent contingent versus non-contingent self-dispensing of rewards, then it is necessary to assure that the subjects can ascertain a distinction in the instructions. In the present study, it was expected that only the older subjects would recognize the contingency related to the self-reinforcement measure. Because of the manner in which the contingency was presented to the subjects, one cannot be certain that the older subjects fully apprehended the instructions.

If the effects of social comparison do vary significantly as a function of subsequent contingent versus noncontingent self-dispensing of rewards, it becomes important to ascertain the frequency with which these two occasions for self-reinforcement occur in the natural environment of children. This distinction might also be made in terms reinforcement that is response dependent rather than response independent. While occasions of non-contingent self-reinforcement are dependent upon the adequacy of some prior performance, children develop personal standards for judging the merits of their behavior

and the degree of reward to self-administer. Therefore, more realistic measures of self-reinforcement might be taken under instructions that require a contingency for self-reinforcement. The results of this study suggest that social comparison has not been effective in altering patterns of clearly stated contingent (response dependent) self-reinforcement.

Perhaps the most obvious explanation for the discrepant results concerning positive and negative social comparison on self-reinforcement is to be found in the differences in the respective populations from which the samples were drawn. Subjects in all previous research have been middle-class white children (with the exception of one mixed sample (Masters, 1971a), while the subjects in the present experiment were lower-class black children. The psychological literature is replete with examples describing differences in performance on a wide variety of responses (Hess, 1970; Zigler, 1970; McCandless & Evans, 1973). Included among these are IQ test scores, measures of impulsivity, locus of control, self-esteem, delay of gratification, effectiveness of reinforcers, and concept formation strategies, to name a few of the more significant ones. These numerous behavioral correlates of socioeconomic status strongly suggest the importance of this variable in human behavior.

It is therefore plausible to suggest that socioeconomic status may have a moderating effect on the way that social comparison influences children's behavior. In view of these considerations, one direction for future research might be to study the effects of social comparison on a population of white children from lower-class backgrounds, and/or a population of black children from middle-class backgrounds.

The results of this study have again failed to reveal a social comparison effect in older children. Thus it remains to be demonstrated in what ways, if any, social comparison contributes significantly to the behavior of older children. The answer to this question may well be in the power of the laboratory

social comparison manipulation. Whereas, some preschool children may be significantly influenced by the social comparison (differential reward input occurring in a comparison with one same-age peer), children as old as 7 and 8 may be influenced little, or not at all. An older subject will probably know the abilities of his classmates better than will a younger subject, and the subjects and partners in this study were classmates. Thus, older subjects would tend to be more aware of their respective abilities relative to the abilities of their classmates. This awareness should in turn allow older subjects to discount the brief laboratory social comparison experience.

Given a social comparison experience that is sufficiently potent, however, older subjects might be influenced in a manner similar to that of younger subjects. Several means for increasing the potency of an experimentally manipulated social comparison come to mind. One way would be to have the subject participate in two or more consecutive social comparisons with different peers, and preferably not with classmates. Another way would be to use two or more same-age subjects in the same social comparison situation. This would be similar to the procedure used to study conformity (Asch, 1952, 1958: Krech, Crutchfield & Ballachey, 1962.) A third method would be for the experimenter to reveal to the subject false same-age norms for the social comparison task.

The conclusions to be drawn from this study are tentative in nature and should be viewed with caution. There is reason, however, to question the generality of significant social comparison effects in the context of the experimental manipulations employed in the paradigm for social comparison research. Although consistently reported in the literature, little support was found in the present data for greater self-reinforcement following negative social comparison. The effects of social comparison on self-reinforcement were marginal at best, and this was true of both age levels of the lower-SES black subjects. It appears that the effects of an experimental manipulation of

social comparison are somewhat different for children from black, lower-SES and white, lower-SES backgrounds.

The compensatory self-reinforcement characteristic of negative social comparison was overshadowed in the present study by an apparent congratulatory effect of the positive social comparison conditions. When the subject received more reward than his partner, self-reinforcement was increased, although marginally. This result is similar to that observed when success and failure are manipulated. After success, children tend to become more generous in the non-contingent self-dispensation of reward (Bandura & Whalen, 1966: Mischel, Coates, & Raskopp, 1968: Masters, 1972b). Whether or not lower-SES black children view the experimental manipulation differently than middle-SES white children is open to conjecture. Their pattern of self-reinforcement following the Masters' paradigm for effecting social comparison does differ markedly from the pattern of self-reinforcement shown by middle-SES white children. It is, however, important to note that the instructions for self-reinforcement (contingent rather than non-contingent reinforcement) could have mediated the results obtained. Also, one may speculate that positive social comparison and the superior reward associated with it were perceived by the subjects as a sign of success. If the differential positive reward (regardless of the contingency of the reward dispensation) did constitute success for these subjects, then on future occasions similar in nature or in temporal proximity, the subjects would be expected to generously dispense self-reward.

Finally, in view of (1) the failure of older subjects to respond to social comparison experiences and (2) the failure of the equitability of reward dispensation to affect social comparison outcomes, it seems important to reexamine the process of social comparison itself. Failure of older subjects to be affected by social comparison may result from the inadequacy of the social

comparison manipulation used in this type of research to effect subsequent behavior changes. Older subjects might be influenced by social comparison only when it occurs as a comparison with others, as in a norm. A single exposure to positive or negative social comparison, therefore, would be insufficient to effect significant changes in behavior. The relatively greater cognitive sophistication of older children may preclude the social comparison effects obtained with younger children, at least when the identical social comparison procedure is used for both ages. The second reason for concern is that the effects of social comparison couched in direct success or failure language (the contingent conditions in this study) should theoretically differ from situations involving non-contingent social comparison.

Thus far, the evidence has not supported this prediction. Further research is needed to help clarify the critical variables responsible for the presence or absence of social comparison effects, and for the failure of a contingency related to reward discrepancy to mediate the effects of social comparison.

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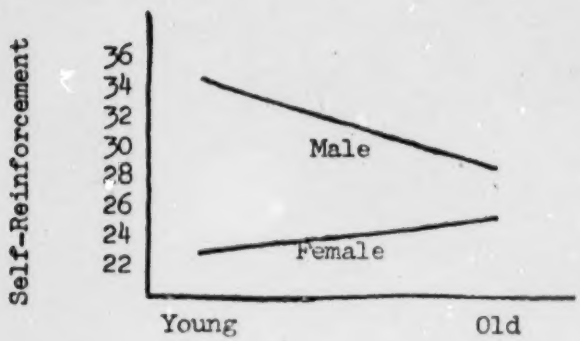

Fig. 1. Interaction of age and sex upon self-reinforcement (summed over five mazes).

Table 1: Analysis of Variance, Self-Confidence

Source	df	MS	F
Social Comparison (1)	1	1.33	< 1
Age (2)	1	8.33	3.45*
Equitability (3)	1	.33	< 1
1 X 2	1	3.00	1.24
1 X 3	1	1.33	< 1
2 X 3	1	5.33	2.21
1 X 2 X 3	1	.33	< 1
Error	40	2.42	
Total	47		

*p<.10

Table 2: Analysis of Variance,
Self-Dispensation of Chips Summed Over Five Mazes

Source	df	MS	F
Social Comparison (1)	3	485.40	2.04
Age (2)	1	17.51	< 1
Sex (3)	1	396.09	1.67
1 X 2	3	68.09	< 1
1 X 3	3	272.68	1.15
2 X 3	1	1433.76	6.04*
1 X 2 X 3	3	159.63	< 1
Error	80	237.43	
Total	95		

*p<.05

Table 3: Analysis of Variance, Self-Confidence

Source	df	MS	F
Social Comparison (1)	3	.46	< 1
Age (2)	1	10.67	4.50*
Sex (3)	1	10.67	4.50*
1 X 2	3	1.47	< 1
1 X 3	3	1.14	< 1
2 X 3	1	2.04	< 1
1 X 2 X 3	3	1.46	< 1
Error	80	2.37	
Total	95		

*p<.05